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SMOS and Aquarius Inter-Comparison Over Oceans

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We present the most recent results from on-going collaborative sensor inter-calibration and salinity inter-comparison analyses between SMOS and Aquarius/SAC-D satellite ocean brightness temperature and salinity retrievals. An important goal of both programs is to inter-calibrate and combine the respective satellite data sets and in situ ocean measurements to provide an accurate and well resolved ocean surface salinity observing capability for ocean and climate studies. At the time of this symposium, SMOS will have completed more that three years of observations and Aquarius more than 19 months. This study will apply the Aquarius data V2.0 to be released at the end of January 2013 (after the submission of this abstract), which includes updated calibration, pointing and geophysical model corrections. The comparison analyses will consist of these elements: (1) Polarized brightness temperatures (TH and TV) interpolated or synthesized at the Aquarius viewing angles, (2) Level 2 salinity retrievals, (3) Level 3 gridded data, and (4) in situ salinity data. The focus will be on quantifying the inter-calibration biases between the sensors, relative uncertainties of the salinity retrievals and the large-scale spatial and temporal systematic biases between the two satellites and in situ data.